

CHARGE NUMBER : 1801

PROJECT TITLE : Expanded Tobacco Development

PERIOD COVERED: August 1-31, 1984

PROJECT LEADER: G. Gellatly

I. CO₂ IMPREGNATION

A. Objective

To find means of CO₂ impregnation of tobacco without clumping.

B. Status

Cabarrus developmental trials for clump-free DIET process definition by liquid CO₂ impregnation were completed. No greater tobacco bed compaction which causes clumping, was observed by liquid spray deflection onto the bed or direct spray through a wire mesh or through a sintered metal nozzle than is observed by gaseous impregnation.

A comparison of clump-free DIET filler made in the pilot plant with MC DET showed an improvement of 5% longs in 100% DIET cigarettes and associated improvement of coal strength and loose ends. These improvements were not observed in 30% DIET blend cigarettes.

C. Plans

1. Analyze results of the Cabarrus trials and make recommendations for future factory trials.
2. Complete the modification of the pilot plant to eliminate the clumpbreaker and vibrabin and demonstrate DIET longs increase by CO₂ spray impregnation and conveyor reordering.
3. Evaluate means of impregnation of tobacco bed depths greater than 30" in the pilot plant.

II. STRIP OPENING

A. Objective

To evaluate processing of opened strip for improved filler length and cigarette quality.

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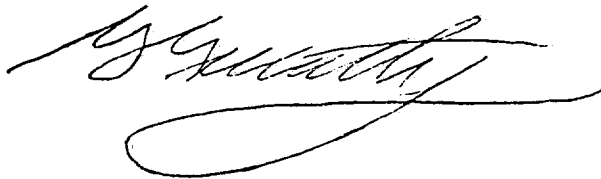
B. Status

DBC control and "opened" strip was cut at moisture levels of 19% to 24% OV and the degradation of filler length through cutting, flavor application and cigarette making was measured. At low cutting OV the control filler was more susceptible to breakage than the flat filler. At a cutting OV of 22% the absolute increase in the longs content (+6 mesh) over control was 10% after the cutter and up to 5% after the maker. This longer filler translated into improved cigarette quality. Loose ends and coal strength improved by about 1/3 in 100% DBC cigarettes. This improvement was particularly noticable at lower cigarette weights (7 weights tested). The filling power of test and control cigarettes was the same.

Cutter trials were run which successfully established operating conditions for cutting "opened" strip which had initially shown some unevenness in cut width.

C. Plans

1. Compare the surface and fiber configuration of "open" and control filler microscopically.
2. Compare the length of different sieve fractions by image analysis.
3. Evaluate the effect of cylinder reordering and drying on "open" strip.
4. Prepare a development program for this project.



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